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ABSTRACT

Undertaken for a doctoral dissertation, this research project on reference services tested a model of major variables that influence academic library reference service outcomes. The study focused on reference librarians who serve in boundary spanning roles, i.e., positions where interchange with the organization's external environment is central to their function. It is argued that these roles are defined in part by the reciprocal roles of their clients, and that understanding the effectiveness of reference personnel requires the study of users as well. Based on these arguments, the model of the reference process that was developed for this study provided for the collection of information on individual reference transactions from both librarians and users. The model was tested through a study of 257 reference transactions from five academic libraries in northern California. The primary method of collecting data was through survey questionnaires for librarians and users. Data were summarized and analyzed by stepwise regression. It was found that variables related to feedback, service orientation, time constraints, and task uncertainty have the most significant effects on service outcomes. It was also found that for the majority of reference transactions, librarian judgments of service value are an adequate substitute for user service value judgments. (CGD)

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CLIENT/SERVICE PROVIDER PERCEPTIONS OF REFERENCE SERVICE OUTCOMES IN ACADEMIC LIBRARIES: EFFECTS OF FEEDBACK AND UNCERTAINTY

JO BELL WHITLATCH

This paper reports selected findings from recent research on reference services which I completed for my doctoral dissertation. My research tests a model of major variables influencing academic library reference service outcomes. In developing the model, I relied heavily upon literature and theory from Organizational Behavior. Boundary Spanning theory is particularly influential.

Because it is so influential in the model I tested, I would like to tell you a little about the theory. Establishment of organizational boundaries is necessary to identify independent organizations. Formal organizations admit some people while excluding others. Formal organizations also develop specialized roles for different positions. Those people in positions where interchange with the organization's external environment is central to their function are said to occupy boundary spanning positions. People in boundary spanning positions both represent the organization to the environment and select and disseminate information within and outside of the organization.

The position people occupy in organizational space will determine their perception and interpretation of incoming information and their search for additional information. All members of an organization occupy a common

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organizational space in contrast to those who are not members. When non-members pass through organizational boundaries and become functioning members of the organization, the people take on some of the coding systems of the organization and accept some of the rules. On the other hand, you would expect organizational members functioning in boundary spanning roles to still share some of the norms, values and coding systems of clients or others with whom they have frequent contact.

The academic library has three different classes of personnel in boundary spanning roles: (1) managers who link the library to the administrative environment on and off campus; (2) administrative staff, such as budget officers and systems analysts who link the library to specialized computing and budgetary agencies external to the library; and (3) service providers, or public service personnel who link the library to individual clients, or library users. Reference librarians are one type of academic library service providers and the focus of my study.

The roles of service providers are defined in part by the reciprocal roles of their clients. Teacher, salesman and case worker can be understood only in relation to pupil, customer and client roles. Consequently understanding the effectiveness of reference personnel requires the study of users as well. As an organization, the library may be expected create differences in perceptions between reference librarians and library users because of the positions

librarians and users occupy in organizational space. Consequently organizational boundaries can be expected to create perceptual differences between users and librarians in evaluating information services. Improving our understanding of factors associated with reference service success requires input from both users and librarians. From my study of boundary spanning literature, I concluded that understanding the reference service process requires identifying the differences and similarities between librarian and user judgments concerning service outcomes for quality, relevance and amount of information provided.

The model of the reference process which I developed and subsequently tested was based on the assumption that it would be necessary to collect information from both librarian and user concerning individual reference transactions. For dependent variables or service outcomes, I developed questions related to service quality, relevance and amount of information provided to users and general satisfaction and a user self report on success in locating needed information. Independent variables included in the model were client socialization, librarian service orientation, feedback, time constraints, task uncertainty, size of library, discipline paradigm development and type of assistance.

I tested my model of the reference process by studying 257 reference transactions from five academic libraries in Northern California. The primary method of data collection

was through survey questionnaire. Parallel questionnaires were designed to be filled out after the completion of each selected reference transaction. Each librarian kept a separate tally of the number of reference questions received. For every fifth reference question, after the question had been answered, the reference librarian asked the user to complete a questionnaire. If the user agreed to complete the survey, the reference librarian gave the user a questionnaire and made quick notes on the first page of the librarian questionnaire.

Most of the variables in the model were composed of several questions. The concepts underlying the variables were developed after an extensive review of the literature and through interviews with experienced reference librarians. The scales for task uncertainty, user and librarian perceptions of service outcomes were based upon scales which have been widely used. Factor analysis was used to determine the number of underlying concepts related to user and librarian perceptions of service quality, satisfaction, relevance and amount of information. Results of the factor analysis for user and librarian perceptual measures were quite similar. All of the measures loaded on one factor and thus it appeared that all items were related to the same underlying construct. Therefore users and librarians appear to discriminate only slightly between general quality judgments and judgments of the more specific aspects of service: relevance and amount of information

provided. Thus to test the model, I used three dependent variables or reports of service outcomes: These are: (1) librarian value of service outcomes; (2) user value of service outcomes; and (3) user self report of success or failure in locating needed information. The results of tests for dependence indicated that the three dependent variables were not redundant; however they should not be interpreted as totally independent. Correlations between user value of service outcomes and user success were moderate whereas correlations between librarian value and the other two service outcomes, user value and user success were weak. Thus, these three dependent variables are most appropriately treated as separate service outcomes.

In testing the model my primary method of analysis was stepwise regression with each of the three outcomes as a separate dependent variable. My major findings are that variables related to feedback, service orientation, time constraints and task uncertainty have the most significant effects on service outcomes. For librarian judgments of service value, a combination of feedback, librarian service orientation, time constraints and task uncertainty explained 38 percent of the variation in service outcomes. For user judgments of service value, a combination of feedback, librarian service orientation, time constraints and type of assistance explained 41 percent of the variation in service outcomes. For user success, a combination of feedback, librarian service orientation, time constraints and task

uncertainty explained 27 percent of the variation in user success.

My study also identified user and reference librarian differences in perceptions for general quality of service, relevance of information and amount of information. Based upon comparisons of librarian and user evaluations of the same transaction, I concluded that for roughly 83 percent of reference transactions, librarian judgments of service value are an adequate substitute for user service value judgments.

Because of limited time, I am only going to discuss the effects of feedback and uncertainty on service outcomes in depth. Feedback may be defined as information about the appropriateness of past performance. Feedback involves information about how behaviors of people are perceived and evaluated by relevant others. Based on previous research, employees in organizations appear to pay attention to feedback from three general sources: (1) organizational and supervisory communications; (2) individuals not in a formal hierarchical relationship such as co-workers or clients; and (3) the process of performing the task itself. Feedback is a central concept in the reference transaction model. Feedback is important in organizational and individual adaptation and thought to be essential for survival. My review of the literature suggests that feedback on job performance is related to effective performance and that positive feedback is related to greater satisfaction with job or service outcomes.

Findings from my study support the importance of feedback as important to effective reference service. Librarian judgments of quality of feedback significantly influence both librarian judgments of service value and user success in locating information. One measure of feedback, the degree to which the user informed the librarian if the question was answered, is the only variable in the study which significantly explains variation in all three service outcomes. Also, my analysis of the seventeen information failures in the study indicates that user success in locating information could be improved through more effective feedback. As an example, for a question concerning the political orientation of People's World, comments on the librarian questionnaire indicated she was uncertain whether the IMS Directory gave political orientation and comments on the matching user questionnaire indicate that the user thought the librarian definitely knew the information was in the source. When the user became frustrated at having wasted time trying to find it, the user indicated it probably wasn't worth the time trying to follow up with the librarian again.

From my results I conclude that Feedback from user to librarian should be much more strongly encouraged. Training in communication skills and theory is recommended. Communication training is most frequently linked to management training both in library school and in continuing education programs. For reference librarians, programs are

needed which place greater emphasis on theory and techniques directed specifically at the reference service rather than the management or group communication situation.

Uncertainty can be defined as a situation in which we cannot have control over or reliably predict all of the variables or relations. Both the literature and interviews with reference librarians indicate that there are two types of uncertainty which may be expected to influence service quality: (1) workflow uncertainty; and (2) task uncertainty. Workflow uncertainties are created by unpredictable client arrival, service and exit patterns over time. In this study, time constaints measures represent workflow uncertainty. Task uncertainty occurs when there is incomplete knowledge about how to produce a desired outcome. In my study, task routinization and subject knowledge measures represent task uncertainty.

In general, time constaints surrounding the reference transaction do not influence service outcomes in the expected direction. Two of the most direct measures, user reports of waits and librarian reports of degree of being busy are not even significantly related to any of the service outcomes. Transactions tend to be short in duration, even during non-peak service periods. Positive correlations between less busy service times and shorter service times appear to contradict common knowledge in the profession that service would be better and more extensive if only there were less demand for the service. The overall

pattern of relationships is one of shorter service times linked with higher service outcomes. In reviewing partial correlations, shorter service times are positively related to librarian feedback quality, librarian adequate time and librarian subject knowledge. This suggests that excellent communication and high subject knowledge may reduce the amount of time required for service and still produce more valued outcomes.

Librarian subject knowledge significantly explains variance in both librarian judgments of service value and user success in locating needed material. Librarian subject knowledge is also positively correlated with user judgments of service value. Librarians reported good subject expertise (1 o 2 on a scale of 7) for only 51.8 percent of transactions.

Individual librarians and users can do relatively little to control the task and workflow uncertainty that characterizes service at the general reference desk. For users who are willing to invest the time and need extensive assistance, desk reference service should be structured so that they have an opportunity to be served through an appointment system by a librarian with the most appropriate subject expertise. This is already being done in some libraries, but others might consider whether handling certain types of requests through a more structured system of appointments and referrals would improve the overall quality of reference service.